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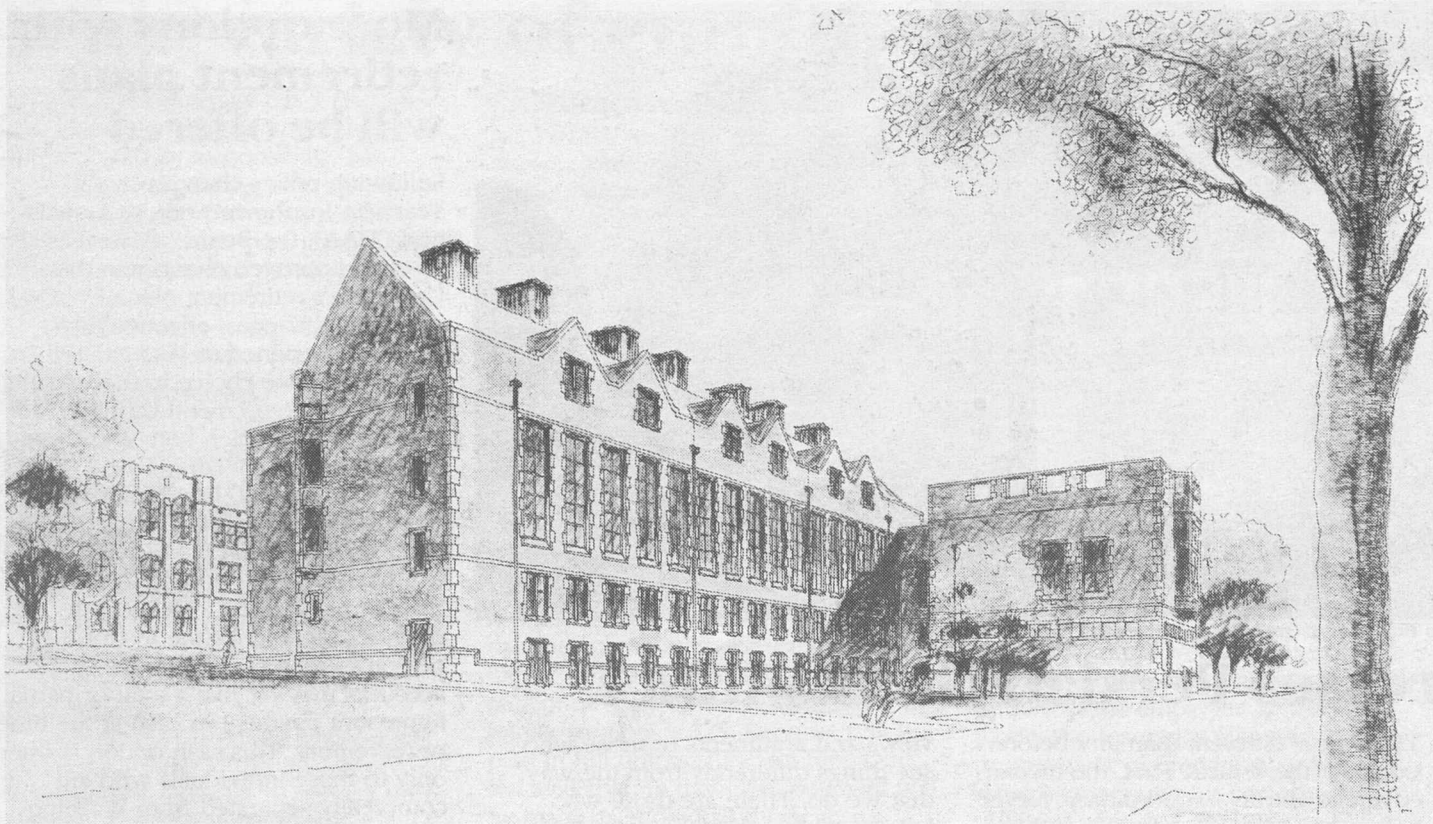
Washington University Record, January 24, 1991

RECORD

Washington
WASHINGTON·UNIVERSITY·IN·ST·LOUIS

Vol. 15 No. 17/Jan. 24, 1991



An artist's rendering of the building under construction just south of Wilson Hall (background). The building will have a separate wing (right) for classrooms.

Making room

Building will provide needed research, office and class space

Construction has begun on a new building that will provide additional research and office space for the Departments of Biology and Earth and Planetary Sciences as well as classroom and lecture hall space for all areas of Arts and Sciences. The five-story building will be located on Forsyth Boulevard, south and slightly east of Wilson hall.

BSI Constructors is the building contractor. The new building has been designed by Kallmann, McKinnell & Wood Architects, the firm that designed Simon Hall, the home of the John M. Olin School of Business. The firm also has created a comprehensive master plan for the campus. The red granite facade of the building, accented by white limestone, will blend with the architecture on campus.

Construction is expected to take two years. The new building will have a separate wing of classrooms, including a 150-seat auditorium-style lecture hall and two classrooms seating 75 and 85 students.

"An extensive study of the needs of the Departments of Biology and Earth and Planetary Sciences, as well as of Arts and Sciences in general, led to the decision to build," says Martin H. Israel, Ph.D., dean of the Faculty of Arts and Sciences. The undergraduate student body at the University has grown in the last few years, he says, with Arts and Sciences enrollment increasing from 2,509 in the fall of 1983 to 2,960 in the fall of 1990.

The offices and laboratories of the biology department's faculty and staff currently occupy crowded space in Rebstock and Monsanto halls. Related projects are often widely scattered throughout these facilities and some adjoining functions have been misplaced or disrupted entirely.

Roy Curtiss III, Ph.D., George William and Irene Koechig Freiberg Professor of biology and department chair, describes the impact of the new building: "The additional space afforded by the new natural sciences building will, for the first time, permit our developmental biology faculty to work in proximity. The additional opportunities for intellectual stimulation and exchange of knowledge should contribute significantly to the education of students and to creative research productivity."

The biology department will occupy laboratories and offices on the building's two lower floors. An office, computer room, dishwashing and sterilizing area, a kitchen to support fruit fly research, and a darkroom will be housed there to support departmental activities. The electron microscope facility, now located in Monsanto Hall, will be relocated to the new building.

Space in the existing biology buildings will be relieved with the opening of the new building, thus allowing more room for the biology department's research and teaching. The plant laboratories will be reorganized and expanded and placed in the vacated space near the Plant Growth Facility.

"The office space and laboratories to be housed in the new building will help us meet our major departmental objective, which is to provide a first-rank program in research and education," says Raymond E. Arvidson, Ph.D., chair of the Department of Earth and Planetary Sciences. Currently, 11 active faculty and research groups exist in space essentially suitable for four or five, and graduate students and staff are assigned to several small offices, which, Arvidson says, are crammed floor to ceiling with shelves and equipment.

The new building will provide the substantial amounts of space needed by the Department of Earth and Planetary Sciences for both offices and equipment. For example, Professor Jill Pasteris' laser Raman microprobe, now located in the Department of Chemistry, will be moved to the new space to integrate her research efforts. Space will be available for a "clean" laboratory needed for detailed rock sample preparation. Research groups also will be able to operate rock-crushing and particle-separating machinery without disturbing other department or University activities.

The earth and planetary sciences departmental activities in Wilson Hall will be able to grow back to normal size with the construction of the new building. Classrooms will not have to be used for the storage of teaching collections, working research collections can be moved out of the hallways, and at least one office can be returned to its former use as a hall-

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Where to park during construction

The recently begun construction of the new building south of Wilson Hall has resulted in a loss of 181 parking spaces on campus, according to Thomas A. Harig, acting associate vice chancellor for business affairs and director of purchasing and general services. The construction is expected to take two years. After completion of construction, 75 parking spaces will be returned.

The red and yellow permit lots between Wilson Hall and Forsyth Boulevard have been enclosed by a six-foot-high construction fence, and the parking lot between Brown Hall and Forsyth Boulevard has become a gate-controlled lot designated for red permit holders only.

"The best places to find a parking space now are the large lots east of Brookings, the small lots south and east of Brown Hall, and in front of Monsanto Hall," says Harig.

Harig says 200 spaces also are available at the Arena shuttle parking location, 5700 Oakland Ave. He says the University's Transportation Department will give prorated refunds to individuals who trade in their Hilltop Campus parking permit for Arena parking and shuttle privileges.

The cost of the Arena lot permit is $12 a year. These permits are honored in yellow areas on campus after 5 p.m. Monday through Friday, all day Saturday and Sunday, and during the summer months of June through August.

Parking shuttles run Monday through Friday from 7:30 a.m. to 6 p.m. The shuttles run continuously between 7:30 and 10:30 a.m. and 3 to 6 p.m. Between 10:30 a.m. and 3 p.m., the shuttles will leave the Arena at a quarter to and a quarter after the hour and will leave campus on each half hour and hour.

As part of Washington's new parking regulations, campus visitors are required to park at either parking meters or at a gated pay lot west of Mallinckrodt Center near Forsyth Boulevard. This includes construction workers for the new building. Harig says most of the construction workers opt for public parking along Forsyth Boulevard.

Christopher Byrnes is named dean of engineering school

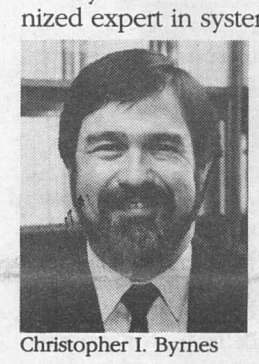
Christopher I. Byrnes, Ph.D., professor and chair of the Department of Systems Science and Mathematics, has been named dean of the School of Engineering and Applied Science, Chancellor William H. Danforth announced. The appointment is effective July 15, 1991.

"Washington University is delighted to have a scholar with Professor Byrnes' breadth of research experience to head our School of Engineering," said Danforth. "We look forward to his leadership in continuing the exceptional program built under Dean McKelvey."

Byrnes succeeds James M. McKelvey, Ph.D., who is retiring as dean after 27 years in the position. McKelvey will remain on the faculty as professor of chemical engineering.

"I am delighted that my successor is someone of Chris Byrnes' stature and ability, and I am confident that, under his leadership, the academic stature of the school will continue to grow," McKelvey said.

Byrnes is an internationally recognized expert in systems and control, a branch of engineering that involves modeling of a vast assortment of physical systems and processes. Although the engineering problems of systems science have been around for centuries, their applications did not become numerous until the 1960s. A classic example was the discovery and development of the Kalman Filter for signal estimation, which was used for midcourse corrections during the manned Apollo moon expeditions. Byrnes' expertise is in control systems, especially in the design of feedback systems, such as those that are used in the design of automatic pilots, process control and robotics.



Christopher I. Byrnes

Byrnes was named a fellow of the Institute of Electronics and Electrical Engineers in 1989 and a fellow of the Japan Society for the Promotion of Science in 1986. He was named a Case Centennial Scholar at Case Western Reserve University in 1980. He is an editor of 11 research volumes and has authored more than 100 technical articles.

Byrnes has held visiting appointments at prestigious institutions throughout the country and the world, including posts at the Academy of Sciences of the Soviet Union, Austria's International Institute for Applied Systems Analysis, Stanford, Harvard and Osaka universities, and at the universities of Bremen, Groningen, Osaka, Paris, Rome and Tokyo. From 1986-89, he was an adjunct professor in the Department of Optimization and System Theory at the Royal Institute of Technology, Sweden's premier engineering school.

Byrnes joined the Washington University faculty in 1989 as professor

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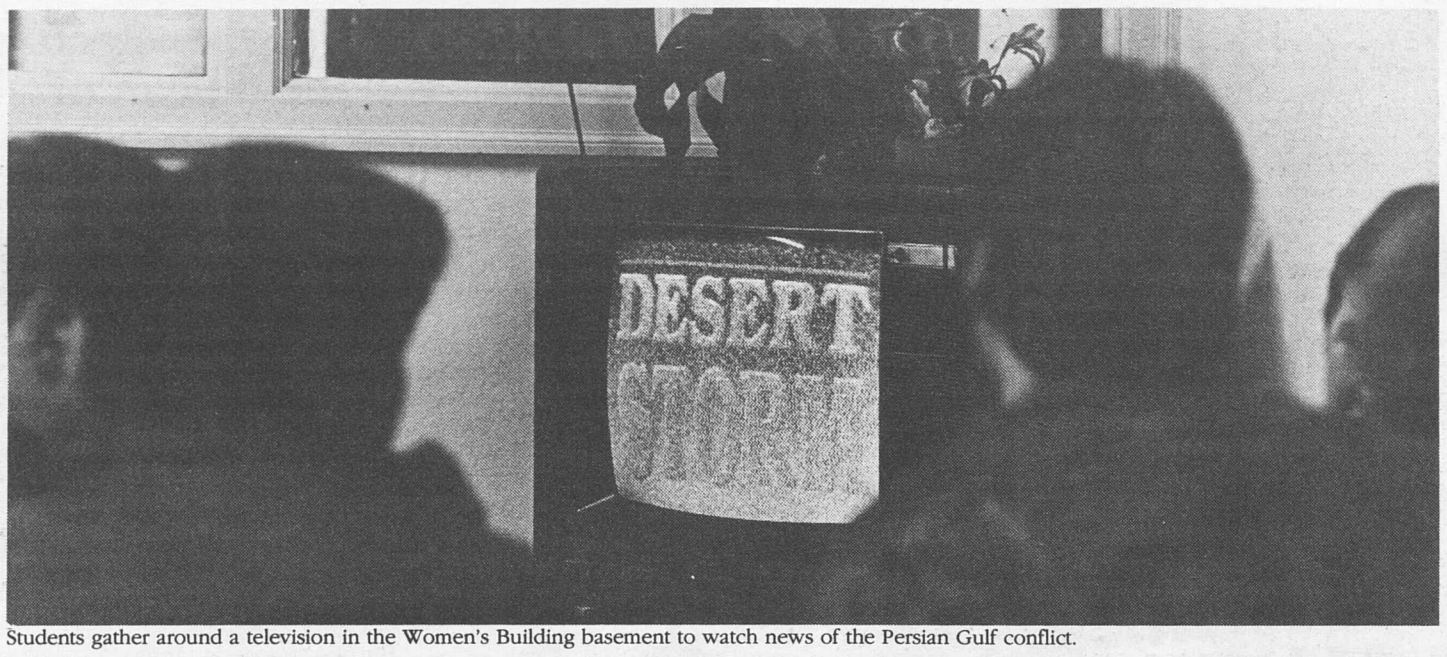
• Research project will help homeless, substance-abusing women. Page 6



Students gather around a television in the Women's Building basement to watch news of the Persian Gulf conflict.

Chancellor addresses Persian Gulf conflict

As the Persian Gulf situation evolved into open conflict, students at Washington University expressed a wide range of viewpoints. Chancellor William H. Danforth sent the following letter to all students last weekend to encourage hope and to put the role of the University into perspective:

Dear Student:

I should like to share my thoughts with you at this time in our national life. America is again at war. Young people, Americans and others, are fighting and dying.

For me, and I imagine for many of my generation who have lived through other wars and have perhaps seen some of the devastation of suffering close at hand, this war, coming at a time of hope for a new world order, is especially sad and poignant.

We are all aware that for all of recorded history human beings have been killing their fellows, destroying culture and treasure, laying waste the land. From time immemorial leaders have led their peoples to suffering and death. It is natural to ask, "When will this madness ever end? When will we learn that we are all brothers and sisters who hope and fear and love and hate? Why can we not remember that we must inhabit the same planet together? When will we learn that war is truly terrible, that it brutalizes and that the outcome is never fully predictable?" We ask these same questions that others have asked before we were born, but clear answers did not come in the past and do not come today. There can be the sense that humanity is on a wheel that goes round and round again.

But despair is never the answer. By intelligence and foresight, humans can and do improve their lot and the lot of their fellows. Progress is made. This war is different than any before. Consider these facts. First, the media coverage is truly extraordinary. Never before has so much information been made available to the general public. Second, there has never been so much informed debate. Educated people understand a great deal about the antecedents, about the immediate and remote causes, about the thoughts and ideologies of our leaders and theirs. Third, rarely if ever before has the nation which upset the peaceful status quo been given such explicit warnings. Fourth, only once before, in the Korean War, has the decision been voted on and ratified by representatives of a world assembly. Perhaps these steps seem small when people are dying, but I hope they point the way for continued progress.

It is worth noting that even in wartime life goes on. The mood is different, but people continue to be human. They require food and sleep; individuals work and play and write songs and make poetry. Some are born; some die; some squabble; some fall in love. The work of civilization goes on as it should. The postwar challenges may require more wisdom and more good will than those during wartime.

Individuals make different decisions during wars. Some become soldiers; some become conscientious objectors. Either course may be admirable, or may not be depending on the circumstances. During wartime when emotions are high, there is almost always a readiness to look for and to find scapegoats. Those who are different from us or those who believe differently from us are most likely to be targeted. Especially during such times educated people have an important role in providing objectivity and perspective. We can serve this function best by taking seriously the views and arguments of those who see things differently from the way that we do. There are those who believe deeply that hopes for long-term peace and world order rest on the successful prosecution of this war. There are others who believe that this war will lead to vastly more suffering than good. There are still others who believe that nothing is worth the taking of human life. All of these points of view and many others command the respect of serious people.

Washington University will go on functioning as it has during past wars. I believe that during such periods our mission to educate the leaders of tomorrow is more important than ever. This need is never ending. The University as an institution may have no position on war or peace or on foreign policy. Washington University is after all a place and an abstraction. But individuals should and do have positions. I hope that all Washington University students will have informed, balanced and passionate opinions. I add passionate because the issues are large and important.

I write this letter thinking of Washington University students present and past. In my lifetime, the United States has already been involved in three major wars, World War II, Korea, and Vietnam. I hope that this one is the last. More importantly, I hope that you and people of your generation from the world over may find better ways of creating and sustaining a just, stable and peaceful world, for yourselves, for your children and for your grandchildren. If you can use your Washington University education in this cause, those of us who have put our lives into this institution will be repaid many times over.

William H. Danforth, Chancellor

'Body musician' Keith Terry to entertain kids of all ages

Kids of all ages will have a hard time sitting still when Keith Terry, musician, percussionist and rhythm dancer, presents his unique art form at 8 p.m. Feb. 1 and 2, and at 2 p.m. Feb. 3 in Edison Theatre.

Terry's Friday and Saturday performances are part of Edison Theatre's "OVATIONS!" series and are co-sponsored by Dance St. Louis. His special one-hour performance Sunday is part of Edison's "ovations! for young people" series.

Using any surface, including his body, as a drum, Terry combines dance, vocalism and percussion to create music and humor. His rhythms and graceful body movements are mesmerizing to both the ear and the eye. Terry, who describes his work as "playful," uses unusual "instruments," including bubble wrap, power tools, toys and raw vegetables to create the sounds he wants. In the young people's performance, Terry will do pieces that involve audience participation, asking listeners to create special sound effects and rhythms at their seats.

Trained as a percussionist, he was the drummer for San Francisco's original Jazz Tap Ensemble when he developed his unusual performance style.

"It opened up this whole other world to me that continues to unfold," Terry told the Oakland (Calif.) Tribune. "The style is mine, but the form is ancient. People were probably stomping and grunting and clapping long before they discovered the slapping of rocks and the hollowing of logs." The influences on Terry's work range from Japanese Taiko drumming and Balinese Gamelan to American rhythm tap and Ethiopian armpit music.

Terry has performed all over the world and has collaborated with artists such as Bobby McFerrin, Robin Williams, Charles "Honi" Coles, and the Pickle Family Circus. He has composed film scores, made recordings and created solo and ensemble "body music" pieces in a variety of contexts, including public television specials.

Tickets are $18 for the general public; $14 for senior citizens and Washington University faculty and staff; and $9 for students. Tickets for "ovations! for young people!" are $7. For more information, call 889-6543.

More options with retirement plans will be offered

Following policy changes by the Teachers Insurance Annuity Association (TIAA), the Board of Trustees recently approved changes in the University's retirement plans.

These changes, effective July 1, 1991, are designed to give each individual more choice in the benefits of the Basic Retirement Annuity Plan — the plan to which both employees and the University contribute.

At retirement, faculty and staff who participate in the College Retirement Equities Fund (CREF) and TIAA will have at least two new options. First, in place of an annuity that provides income for the rest of the person's life, those who have CREF accounts may receive a total or partial lump sum payment in cash at the time of retirement. This cash option is open only to those individuals who are completely separated from Washington University (i.e. resignation, retirement, etc.) and who are at least 55 years old.

The second new option is the ability to transfer funds from CREF and/or the Vanguard Group of Mutual Funds. TIAA is planning a third new possibility to provide a cash-out option for TIAA investments, but that plan has not yet been announced.

Also, prior to retirement, current faculty and staff can invest all or part of their retirement benefits in the Vanguard funds in addition to the traditional options of investing in TIAA and CREF. Funds already invested in CREF may be moved to the Vanguard Funds; a similar option may also be allowed for TIAA depending on later action by that organization.

In April 1991, faculty and staff will receive in the annual annuity letter an outline of the procedures needed to exercise the above options. Kevin P. Nussbaum will be available to provide information on the tax and financial impact of the various options. Employees who are retiring before July 1, 1991, and are interested in cashing in their accumulations, should contact Nussbaum at 889-5990 as soon as possible.

RECORD

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Photographers: Joe Angeles, Tom Heine, David Kilper and Herb Weitman
Record (USPS 600-430; ISSN 1043-0520), Volume 15, Number 17/Jan. 24, 1991. Published weekly during the school year, except school holidays, monthly during June, July and August, by the Office of Public Affairs, Washington University, Box 1070, One Brookings Drive, St. Louis Mo. 63130. Second-class postage paid at St. Louis, Mo.

Address changes and corrections:

Postmaster and non-employees: Send address changes to: Record, Washington University, Box 1070, One Brookings Drive, St. Louis, Mo. 63130.
Hilltop Campus employees: Send to: Personnel Office, Washington University, Box 1184, One Brookings Drive, St. Louis, Mo. 63130.
Medical Campus employees: Send to: Payroll Office, Washington University, Box 8017, 660 S. Euclid, St. Louis, Mo. 63110.

NOTABLES

Kathleen F. Brickey, J.D., George Alexander Madill Professor of Law, testified before the U.S. Sentencing Commission at a hearing on proposed Sentencing Guidelines for Organizational Defendants. She addressed proposals on the sentencing of closely held organizations and their owners, and on the coordination of civil and criminal sanctions. Her article titled "RICO Forfeitures as 'Excessive Fines' or 'Cruel and Unusual Punishments'" has been published in the Villanova University Law Review. The article is based upon a paper she presented at the law review's 24th annual symposium last fall. The 1990 supplement to *Corporate Criminal Liability,* her three-volume treatise, was published in November.

Robert J. Fallon, M.D., Ph.D., assistant professor of pediatrics, received a Leukemia Research Award from the Lauri Strauss Leukemia Foundation of New York. The award includes a $25,000 stipend to support his research on the cell and molecular biology of cell surface receptors.

David Felix, Ph.D., professor emeritus of economics, gave a series of three invited lectures on Latin America's political economy toward the end of the 20th century to students and faculty of the economics graduate school at the National Autonomous University of Mexico in Mexico City. The lectures were based on his article titled "Latin America's Debt Crisis: Overselling the Market Solution," which was published in the fall 1990 issue of World Policy Journal, and on the 1990 book titled *Debt and Transfiguration? Prospects for Latin America's Economic Revival,* of which he served as editor.

Arnold J. Heidenheimer, Ph.D., professor of political science, gave the opening lecture at a conference on Social Policy and the Welfare State in Germany held at Brown University. He also gave lectures and participated in panels at the University of Bergen, Norway; the Science Center in Berlin; the University of Muenster in Germany; the City University of New York; and the American Political Science Association meeting in San Francisco.

J. Neal Middelkamp, M.D., professor of pediatrics, has been elected vice chairman of the Pediatric Residency Review Committee of the Accreditation Council for Graduate Medical Education of the American Medical Association. The committee evaluates and accredits all residency training programs in the United States.

Nancy Morrow-Howell, D.S.W., assistant professor in the George Warren Brown School of Social Work, presented a paper, titled "Patient and Family Satisfaction With Discharge Plans," at a meeting of the Gerontological Society of America. She and **Martha N. Ozawa**, Ph.D., Bettie Bofinger Brown Professor of Social Policy in the social work school, completed an evaluation of the Older Volunteer Service Bank, a volunteer program in Missouri conducted through Grace Hill Neighborhood Services.

Peter H. Raven, Ph.D., Engelmann Professor of Botany and director of the Missouri Botanical Garden, is the recipient of three prestigious national and international scientific and environmental awards. He received a Distinguished Service Award for major contributions to biology from the National Association of Biology Teachers at the group's 1990 convention in Houston, Texas. Prince Bernhard of the Netherlands has confirmed him as an officer in the Order of the Royal Ark, a society established in 1971 to honor individuals for outstanding work in nature preservation. The Council of Scientific Society Presidents presented him with the 1990 Award for the Support of Science at a council meeting in Washington, D.C. The council confers the annual award to honor individuals for their support and research in science, among other factors.

Gruia-Catalin Roman, Ph.D., associate professor of computer science, gave an invited lecture titled "A Proof-based Approach to Visualizing Concurrent Computations" to the Department of Electrical Engineering and Computer Science at the University of Illinois in Chicago.

Have you done something noteworthy?

Have you: Presented a paper? Won an award? Been named to a committee or elected an officer of a professional organization? The Washington University Record will help spread the good news. Contributions regarding faculty and staff scholarly or professional activities are gladly accepted and encouraged. Send a brief note with your full name, highest-earned degree, current title and department along with a description of your noteworthy activity to Notables, Campus Box 1070, or by electronic mail to p72245SS at WUVMC. Please include a phone number.

Engineering dean — *continued from p. 1*

and chair of the Department of Systems Science and Mathematics. He had been a research professor of engineering and mathematics at Arizona State University in Tempe since 1984. At Arizona State he was awarded the Graduate College Distinguished Research Award in 1988 as the outstanding researcher at that university. From 1983-85 he was an associate professor on the Gordon McKay Endowment in the Division of Applied Sciences at Harvard University and from 1978 to 1982 he was an assistant professor at Harvard. He began his academic career in 1975 as an instructor at the University of Utah.

Byrnes received a bachelor's degree in 1971 from Manhattan College in New York and a master's and doctorate from the University of Massachusetts in 1973 and 1975, respectively.

Building — *continued from p. 1*

way. Because it will be connected to the new building, Wilson Hall will be accessible on all levels to people with physical disabilities.

Linda B. Salamon, Ph.D., dean of the College of Arts and Sciences, looks forward to the completion of the classrooms. "Similar size classrooms elsewhere on campus are presently occupied almost every hour of every day, and scheduling medium-sized and larger classes has become a serious problem," she says. "These scheduling problems will be dramatically improved by the new classroom wing."

Commitments for the building and equipment have been received from the Mitsubishi Kasei Corporation of Japan; the Laclede Gas Co.; the Keck Foundation; and several generous alumni, including Wilfred R. Konneker, Ph.D., GR '50, and his wife, Ann Lee; and Mark Jay Ginsburg, M.D., LA '73, and his wife, Anne (Carey Varhol), GR '80. Fund-raising for the building will continue.

Fashion fairy tale

Senior takes home only U.S. prize from international competition

Senior Nancy Freund has returned triumphantly from Paris, where she was the only American to win an award in the international Air France student fashion design competition held in December.

Freund, a senior in the School of Fine Arts and a resident of Ladue, Mo., was one of 16 winners in a field of 130 fashion students from around the world. In November, Freund had been selected as one of 10 U.S. finalists from a field of 55 students representing 30 of the top U.S. design schools.

"The whole experience was like a fairy tale," says Freund. "I came home really inspired to sketch more and more designs and make more garments, even over winter break."

The fashion design student's creation, a bright green and orange wool dress with a football motif, including quilted shoulders, yard-line seams, "x and o" plays and end-line sleeves, received the "Prix d'Encouragement, or "incentive award." The award carried with it a crystal trophy designed by Baccarat and a scholarship worth approximately $1,000, among other prizes.

Judges for this year's competition included such fashion luminaries as Kenzo, Sonia Rykiel, Paco Rabane, Olivier Lapidus and Jean-Louis Scherrer.

Jeigh Singleton, head of the University's fashion design program, was very proud of Freund's accomplishments. "It's still so hard to believe that this wasn't just any competition, that Nancy was competing on an international level," Singleton said. "I am particularly proud that she beat out the top entries from such prestigious fashion schools as Parsons and the Fashion Institute of Technology.

"The amazing thing is that Nancy is one of many outstanding students in the senior class. This fashion program is really taking off. Each class is better than the one before it. This year's seniors are an extremely talented bunch — and the junior class promises to be even better."

New faculty are introduced

The Record is running a weekly series profiling new faculty on the Hilltop and Medical campuses.

Claude Bernard, Ph.D., professor of physics, joins the Washington community from the University of California, Los Angeles, where he was a professor of physics and a 1983 recipient of the university's Distinguished Teaching Award. He also served as deputy director of the Institute for Theoretical Physics in Santa Barbara. His research interests are theoretical high energy particle physics, particularly lattice gauge theory. He is a former Alfred P. Sloan Foundation Fellow and was awarded a National Science Foundation Graduate Fellowship from 1972-75. He received a bachelor's degree in physics, summa cum laude, from Harvard College in 1972, and a doctorate in the same field from Harvard University in 1976. He received Harvard College's David Robbins Prize presented to the outstanding graduating physics major and the Sophia Freund Prize as the highest ranking senior.

Gayle Jeannine Fritz, Ph.D., assistant professor of anthropology, comes to St. Louis from the University of Michigan, where she was a visiting assistant professor and visiting curator of the university's Museum of Anthropology. Her areas of specialization are paleoethnobotany, North American prehistory and the origins of agriculture. She is a former Smithsonian Institution Postdoctoral Fellow. Fritz received a bachelor's degree in classical archaeology in 1969 from the University of Michigan, where she graduated "with distinction," a master's in anthropology with a specialty in archaeology from the University of Texas at Austin in 1975, and a doctorate in anthropology with a specialty in paleoethnobotany from the University of North Carolina-Chapel Hill in 1986.

North to discuss Russian revolution

Douglass C. North, Henry R. Luce Professor of Law and Liberty at Washington University, will give the Luce Lecture at 11 a.m. Wednesday, Jan. 30, in Graham Chapel. His lecture, "The Unmaking of the Russian Revolution," is free and open to the public. It is sponsored by the Assembly Series.

North, who recently returned from a visit to the Soviet Union, is a consultant for the World Bank. A fellow of the American Academy of Arts and Sciences, he directed the University's Center for Political Economy until 1990.

North is a specialist in economic organization, economic history and political economy, and has written several books on economics, including the 1990 Institutions, Institutional Change and Economic Performance. He has lectured at many major American and Canadian universities and at conferences and universities in Japan, South Africa, South America and Europe.

The Luce professorship is funded by a grant from the Henry Luce Foundation. For more information on the lecture, call 889-4620.

Renowned organist will play in Graham

Press reviews have lauded Gerre Hancock as the finest organ improviser in America. The organist is scheduled to perform Tuesday, Jan. 29, in Graham Chapel.

The recital is free and open to the public.

An organ improviser is someone who has the ability to invent music at the keyboard, to sit down and spontaneously play. Hancock's 8 p.m. performance will feature works by Franck, Bruhns, Bach and Sowerby, and conclude with an improvisation of a four-movement sonata.

Hancock is the organist and master of the Choristers at St. Thomas Church in New York City. He also serves on the faculties of The Juilliard School and the Institute of Sacred Music at Yale University. His visit is sponsored by the Graham Chapel Series and the St. Louis Chapter of the American Guild of Organists.

MEDICAL RECORD

Study shows best treatment for advanced breast cancer

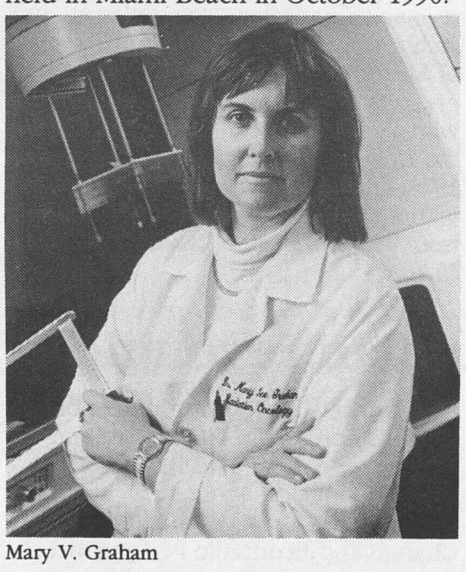
Although a larger percentage of breast cancer is being diagnosed early, when treatment is most effective, for those women with locally advanced breast cancer — what physicians call stage III — the best approach now appears to be a combination of three regimens: radiation therapy, chemotherapy and surgery.

According to recent research at the School of Medicine, the sequence in which the individual treatments are prescribed also may be vitally important to success.

In their study of 237 women treated with various combinations of the three approaches over a span of 20 years (1968-1987), Mary V. Graham, M.D., and her colleagues in the Radiation Oncology Center at Mallinckrodt Institute of Radiology, report that survival rates were significantly higher when all three treatment options were combined. Local control of tumors — prevention of recurrence at the original disease site — also peaked when systemic therapy, irradiation and mastectomy were combined.

Though mastectomy alone has been shown to yield poor results, with relapse rates as high as 78 percent five years after the surgery, Graham says "mastectomy is important for local control of tumors, even though the movement in general has been away from it. Sometimes, the tumor burden is apparently just too great for alternative therapies."

An instructor in radiation oncology, Graham presented the results of her study to the annual meeting of the American Society for Therapeutic Radiology and Oncology, held in Miami Beach in October 1990.



Mary V. Graham

All of the subjects in the retrospective study were diagnosed as having stage III disease, one of four classes to which physicians assign all breast cancers. Stage III is characterized by a tumor five centimeters in diameter or larger, with skin or chest-wall involvement or advanced lymph-node disease.

In stage I cancer, the tumor is less than two centimeters in diameter, with no lymph-node involvement and no distant metastasis, or shifting of the disease. Stage II comprises disease with tumors as large as five centimeters or lymph-node involvement. And stage IV displays metastases to distant sites in the body. "Stages III and IV are much more serious, with a lower potential for remaining disease-free and a lower potential for survival," says Graham.

According to Carlos A. Perez, M.D., director of the Radiation Oncology Center and a collaborator on the research, a smaller and smaller percentage of women with breast cancer is being diagnosed with advanced disease — either stage III or stage IV. "Thanks to screening mammography, public awareness and physician education, early diagnosis is becoming more common," he says. Still, of the one in 10 women who will be afflicted with breast cancer, perhaps 20 percent will be diagnosed with advanced disease. "Many of these are neglected cases — women who did not seek medical attention for whatever reason. And some just have aggressive tumors that are not diagnosed until they are more advanced," says Graham.

The authors also report on how successful the four treatment modalities were in preventing recurrence of cancer at the original site five years post-treatment. The success rates: 31 percent, irradiation alone; 47 percent, irradiation and systemic therapy; 80 percent, irradiation and mastectomy; and 93 percent, irradiation, mastectomy and systemic therapy combined.

The investigators also examined the effectiveness of the treatment when the sequence of its various elements was taken into account. They divided those women who received all three therapies into two groups: one that received mastectomy prior to getting systemic medication and radiation therapy (in the conventional order), and another that began chemotherapy and/or radiation therapy before undergoing surgery (a less traditional approach).

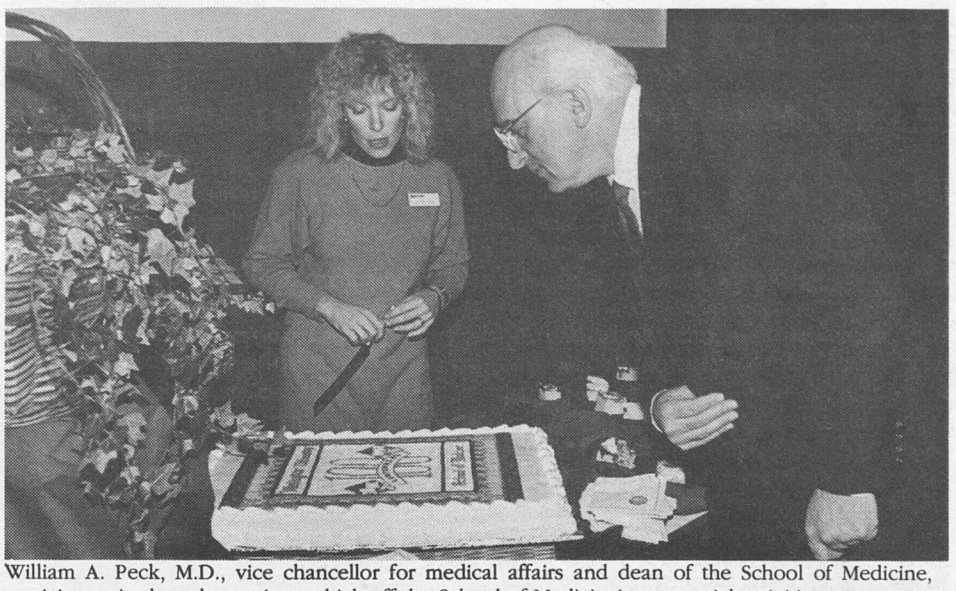
Although the results were not statistically significant, Graham reports an increase in survival rates for those women who were treated with chemotherapy and/or radiation before they underwent breast surgery. "It may be that success depends upon not just what treatment we give, but when," says Graham.

Perez speculates that the better survival rate seen when the traditional order of therapies is reversed may be due to reduced cancer-cell activity at the time of the surgery. "If we can make the cells non-viable with early treatment, they are inactivated before they are disseminated by surgery," he proposes. But he warns that a definitive answer to the question of why one sequence is superior to another will have to wait for future studies.

Graham also plans further investigations. She would like to design prospective studies that test the hypotheses presented by her first investigation, but acknowledges that ethical considerations will have to be weighed carefully in light of the evidence that the triple modality is clearly the most effective and that it may also be best to begin chemotherapy and irradiation before surgery.

Graham also adds a bigger caveat. The results of her study show that as therapy becomes more aggressive, the number of serious and moderate complications rises. In particular, chemotherapy appears to contribute to the number of side effects experienced. Irradiation alone produced complications in only six percent of the patients receiving it. Combined with mastectomy, the percentage remained the same. But when irradiation and chemotherapy were combined, the rate went to 33 percent. In triple modality therapy, 19 percent of the patients suffered serious side effects. The list of complications includes fractures, cardiac disease, swelling of the arm, hemorrhage and others. As Graham says, "The study supports a combination of mastectomy, radiation therapy and systemic therapy, but at a cost."

Steve Kohler



William A. Peck, M.D., vice chancellor for medical affairs and dean of the School of Medicine, participates in the cake-cutting to kick off the School of Medicine's centennial activities.

Happy birthday medical school

The centennial celebration of the School of Medicine kicked off Jan. 16 with an age-old tradition: birthday cake.

More than 50 cakes were baked for the School of Medicine's approximately 5,000 employees and staff, who were all invited to take part in this first observance of the centennial. The year-long celebration will include numerous special events for employees and alumni, as well as a scientific symposium and a formal dedication of the new Medical Library and Biomedical Communications Center.

In honor of the centennial, a limited-edition commemorative datebook has been produced as a gift to alumni, faculty, staff, students and friends of the School of Medicine. The datebook — which features historical highlights as well as vignettes on prominent scientists affiliated with the school — opens with this quote from former dean Robert Moore: "An institution is only as great as the individual men and women who compose it."

The School of Medicine was formed in 1891 when the St. Louis Medical College, which had been founded in 1842, became the Medical Department of Washington University. In 1899 the Missouri Medical College, in operation since 1840, joined the Medical Department, thus uniting the two oldest medical schools west of the Mississippi River.

In 1910 the school formed a relationship with Barnes Hospital, then in its planning stages, and with St. Louis Children's Hospital to allow students into the wards as clinical clerks. This relationship also allowed the school the opportunity to conduct clinical research and to appoint staff members to both hospitals. Until that time, no American medical school except Johns Hopkins conducted its clinical work in this fashion.

Washington University's program was immediately successful and emulated by other medical schools throughout the country.

Since its beginnings, the school has moved from regional to national to international prominence. It consistently ranks among the top 10 medical schools in the country in funding from the National Institutes of Health (NIH). In fiscal 1989 the school ranked sixth out of 124 medical schools, with more than $86 million in total NIH support for research and training.

M. Kenton King, M.D., Danforth Professor of preventive medicine and former dean of the School of Medicine, is chair of the centennial committee.

$4.2 million is awarded for research on computer-aided drug design

The National Institutes of Health has provided $4.2 million in additional funding to the Center for Molecular Design at the University to continue research on computer-aided drug design.

Computer-aided drug design is the use of computer graphics and molecular modeling to streamline the process of drug development. The technique allows scientists to predict the viability of a new drug by manipulating a model of its receptor, or target, on a video screen.

This five-year program project grant supports collaborative projects of a multidisciplinary team of scientists, says principal investigator Garland R. Marshall, Ph.D., director of the Center for Molecular Design. Investigators funded through the program project grant include Marshall, professor of pharmacology and of biochemistry and molecular biophysics; Jay Ponder, Ph.D., assistant professor of biochemistry and molecular biophysics; Kevin Moeller, Ph.D., assistant professor of chemistry; Richard A. Dammkoehler, M.S., professor of computer science; and Bruce Nock, Ph.D., assistant professor of psychiatry and anatomy and neurobiology.

Researchers will use computational approaches to design potential therapies for patients with organ transplants, AIDS, hypertension, anxiety and drug addiction. The computer-designed compounds will be produced and tested to provide feedback so that more powerful analysis and design tools can be developed. To ensure rapid execution of their projects, scientists will use a Silicon Graphics 4/380 supercomputer that dramatically increases the computational power available for this type of research.

In addition to NIH funding, financial support and scientific collaboration will be provided by Evans and Sutherland, manufacturers of high-performance work stations, and by Monsanto, G.D. Searle and Warner-Lambert/Parke-Davis. Their sponsorship will allow the recruitment of two additional scientists with expertise in computational chemistry.

Commercial software based on the concepts and approaches developed in the past by the Washington University group is marketed by Tripos Associates of St. Louis. This software is now in use at the Center for Molecular Design as well as over 200 facilities worldwide, including most of the pharmaceutical industry.

Marshall founded Tripos Associates, the pioneer in molecular modeling software, in 1979 and served as president and chairman until 1987, when it merged with Evans and Sutherland Computer Co.

Tribal traditions

Student shares his culture with others

Clad in handmade leather moccasins, swirling threads of turquoise and ribbons of red and gold, Corwin Sutherin holds onto his heritage by stepping to the beat of its drum.

A descendent of the Assiniboine tribe of American Indians and an occupational therapy student at the School of Medicine, Sutherin, 25, shares his heritage with St. Louisans by performing native dance. Sutherin is a first year bachelor's degree student in the occupational therapy program. He and his wife, Bobbie, and their five-month-old son, Philip, moved to St. Louis in August from Idaho.

Corwin Sutherin

Sutherin, who has performed here for the Girl Scouts and at junior high and elementary schools, became interested in tribal dancing several years ago while attending junior college in Rexburg, Idaho. As a student there, he was among members of an American Indian Club who danced for church groups and schools as a money-making project. His involvement eventually led to his decision to become a grass dancer.

Grass dancing is said to have originated with the Sioux Indians as part of a sacred ritual to prepare the ground for a powwow.

"They'd flatten the grass with their feet and bless the ground before they danced," Sutherin said. "Grass dancing has become popular in the last few years. It's more strenuous than other dances to perform and it appeals to young men and old."

Though Sutherin has an older sister who does fancy shawl dancing, which is specific to women, he recalls that his mother was particularly touched when he called to tell her he intended to become a grass dancer.

"When I called my mother and told her, she cried. I never realized how much it meant to her," said Sutherin, who is the youngest of five children. His mother is full-blooded Assiniboine.

Grass dancing is "intertribal" and frequently performed by various tribes, as are two other types of dance, fancy and traditional, Sutherin says. The performers' costumes and colors distinguish the different dances.

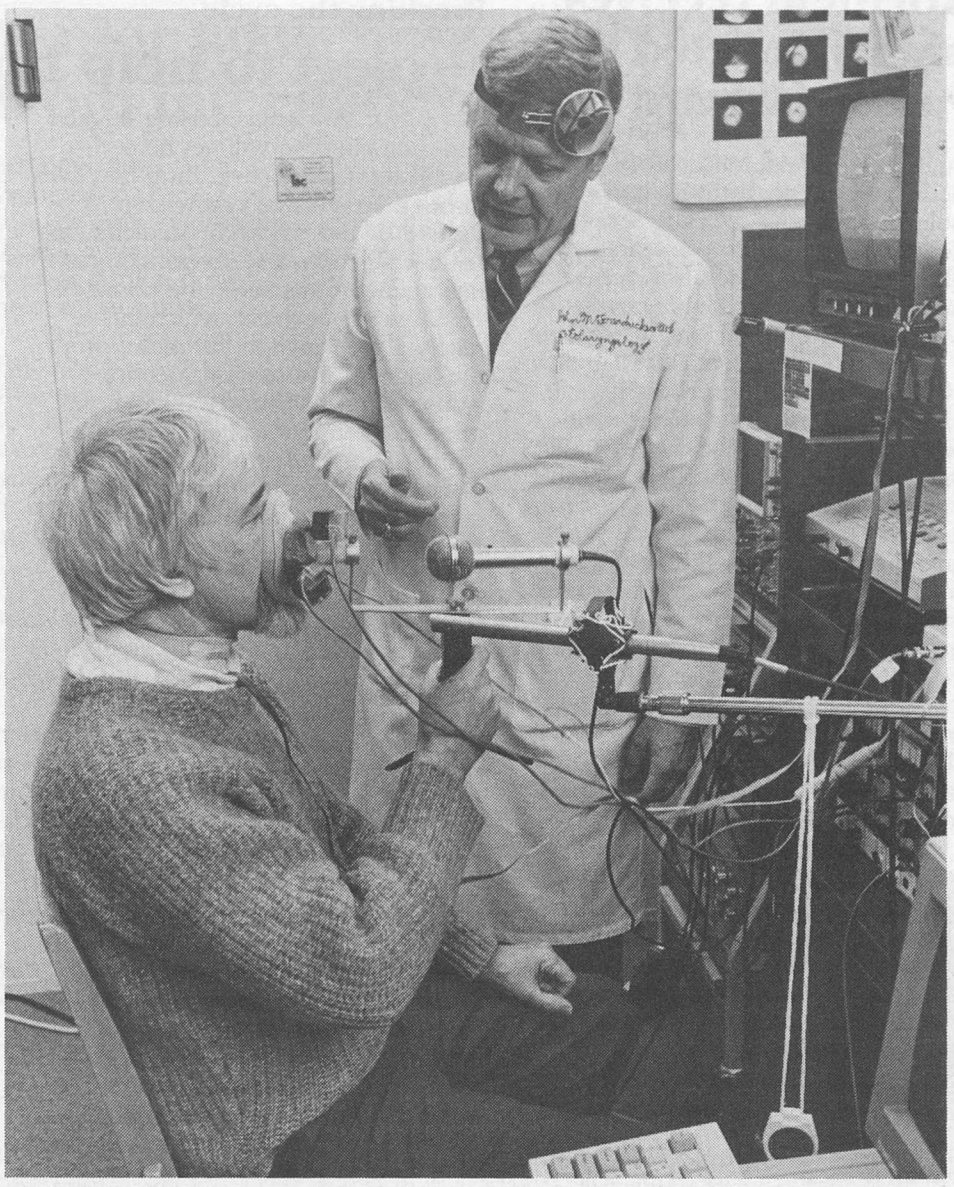
Sutherin and his wife spent eight months constructing his colorful costume of turquoise, red and orange. The detailed ensemble has three main pieces, as well as arm bands, a plumed head piece, necklace, leather moccasins, and knotted bandannas. Thirty skeins of yarn were used in the costume, which features an eight-point Eagle Star design stitched into the beadwork and on the cape.

Sutherin says he enjoys dancing and sharing his culture with others. He usually performs for about 45 minutes, dancing to pre-recorded music in front of a teepee he sets up in the background. During the performance, he also talks briefly about his heritage and the significance of dance.

"Dance is a part of the American Indian way of life," Sutherin says. "I look forward to the day when my son Philip can join me. As soon as he can walk, I'm sure we'll make him a little grass dancer outfit."

After graduation, Sutherin hopes to return to the Northwest and work in pediatric occupational therapy.

Kleila Carlson



John M. Fredrickson, M.D., (standing) and Colin Painter, Ph.D., demonstrate devices used in the Head and Neck Cancer Center's speech lab.

Missouri's first

Head and Neck Cancer Center opens

The first cancer center in Missouri to specialize in the treatment of head and neck cancer has opened at the School of Medicine.

Patients at the center are treated by a team of specialists from several disciplines, including otolaryngology/head and neck surgery, radiation therapy, medical oncology, dentistry and rehabilitation. The center, open Mondays from 1 to 4 p.m., is located on the eighth floor of the McMillan Building, 4901 Barnes Hospital Plaza.

"The new center gives patients access to different specialists in one setting," says John M. Fredrickson, M.D., Lindburg professor and head of otolaryngology at the School of Medicine. "This is convenient for patients, but most importantly, the team approach helps ensure that they receive the best and most thorough care possible."

When patients are seen by their various specialists on different days, Fredrickson points out, it's difficult to cover all aspects of treatment. After patients are seen at the new center, specialists from the School of Medicine and Barnes Hospital meet to decide upon the best treatment.

Rehabilitation and reconstructive surgery are carefully considered during treatment planning, Fredrickson explains. Sometimes, head and neck cancer treatment requires removal of the voice box or other important structures. That's very traumatic, he says, making it imperative to consider the reconstructive and rehabilitative options available to improve each patient's appearance, function and quality of life once the cancer has been removed.

Research also is an important component to the center. Studies focus on diagnosing cancer earlier, predicting the course of individual cancers and developing better methods of treatment.

Today approximately 67,000 cases of head and neck cancer are diagnosed in the United States each year. Of these almost half are in the mouth, affecting the tongue, lips, mucous membranes and palate. Another 25 percent involve the voice box. Current treatments available include surgery, radiation, chemotherapy and combination therapy.

The otolaryngology/head and neck surgery section of the Head and Neck Cancer Center is directed by Fredrickson. Bahman Emami, M.D., professor of radiology, is in charge of radiation therapy, and Joanne Mortimer, M.D., associate professor of medicine, supervises chemotherapy. Other surgeons from the Department of Otolaryngology also are involved.

For more information about the Head and Neck Cancer Center, call 362-7680.

Juan Garcia receives minority faculty grant

Juan Garcia, M.D., instructor of medicine at the School of Medicine, has received a $152,498 grant from the Robert Wood Johnson Foundation, the nation's largest health care philanthropy.

The two-year grant is awarded through the foundation's Minority Medical Faculty Development Program and is the second Garcia has received. The program provides up to four years of research funding to qualified physicians who choose to pursue full-time academic medicine careers.

Garcia, a research associate in the Department of Cell Biology and Physiology, is studying transport proteins. Working in the laboratory of Mike M. Mueckler, Ph.D., he is looking specifically at facilitative glucose transport proteins, which carry glucose into cells. These proteins are important because they may be involved in the development of diabetes.

Garcia received a bachelor's degree in biology from the University of Puerto Rico in 1978 and a medical degree from the University of Puerto Rico School of Medicine in 1982. He completed an internship and residency in internal medicine and research fellowship in renal diseases at the Veterans Administration Hospital of San Juan. He came to the School of Medicine in 1986 as a fellow in the renal division and was named an instructor of medicine in 1988.

Garcia is a diplomate of the National Board of Medical Examiners and certified by the American Board of Internal Medicine and the Nephrology Subspecialty Board. He is an associate of the American College of Physicians and the American Federation for Clinical Research and a member of the International Society of Nephrology.

The Robert Wood Johnson Foundation has existed since 1936. It was established as a national philanthropy in 1972. Since that time, it has awarded more than $1 billion in grants to improve health care in the United States.

Dermatitis study still needs volunteers

Researchers at the School of Medicine still need volunteers for a study of atopic dermatitis.

The study is testing the effectiveness of a new experimental drug in controlling atopic dermatitis. Ann G. Martin, M.D., instructor in dermatology, is directing the research.

Volunteers must be 18 or over with chronic, active atopic dermatitis that has not been recently treated with systemic or topical medications. Participants are assigned one of two study medications, to be applied once daily. Clinical evaluations are taken after three and seven days and at the conclusion of the study.

For information, call 362-2643.

MEDICAL RECORD

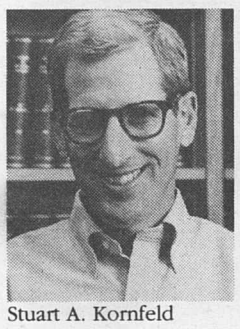
Kornfeld receives highly coveted Passano award

Stuart A. Kornfeld, M.D., professor of medicine and biochemistry and molecular biophysics at the School of Medicine, is one of two researchers who have been chosen to receive the medical profession's highly coveted 1991 Passano Foundation Award.

The other recipient is William S. Sly, M.D., a former faculty member who is now professor and chairman of biochemistry and molecular biology at St. Louis University School of Medicine.

The Passano award is given each year to one or two researchers who have made an outstanding contribution to the advancement of medical science and whose associated work was done in the United States. Prime consideration is given to work that has immediate clinical value or gives promise of practical application in the near future. About one-third of the researchers who have received the Passano award have gone on to win the Nobel Prize.

Kornfeld and Sly are the first St. Louis researchers to receive the award, which has been given annually since 1945. Working independently, the two have produced discoveries with broad relevance to cell biology and human disease. Specifically, they have discovered the mechanism by which lysosomal enzymes are targeted so that they can be taken up by lysosomes, which break down and eliminate waste from cells. Defects in this disposal system can cause rare disorders called lysosomal storage diseases, such as Tay-Sachs disease.


Stuart A. Kornfeld

"An award like this comes about because of the dedicated people who work in our labs," Kornfeld said. "It's high quality work and I feel privileged to be able to do research in such a stimulating environment."

Kornfeld's work has helped to explain the structure of the carbohydrate units of glycoproteins and to define the steps involved in their formation. Carbohydrate units are important because they serve as specific recognition markers in a variety of biological reactions, including targeting lysosomal enzymes from the site where they are produced to the lysosomes.

Of particular interest to Kornfeld is how proteins manufactured by the cell are targeted to their correct destination, since the cell makes hundreds of different proteins that have to be sent to many different destinations. Signals built into the proteins allow this intracellular trafficking to occur. Specifically, Kornfeld's team is working to decipher these signals to determine how proteins get sent to the correct location.

The information may be used in the future to develop new therapies in the detection and treatment of specific disorders that are caused by defective signal markers occurring within the cell.

Each recipient of the Passano Foundation Award receives an honorarium of $20,000. Recipients will give a talk on their work to fellow scientists at the annual Passano Foundation Lecture, to be held April 8 in Baltimore.

The sole purpose of the Passano Foundation is to encourage medical science and research, with an emphasis on clinical application. The foundation was formed in 1943 by the late Edward Boteler Passano, who was chairman of the Board of The Williams & Wilkins Co., publishers of medical books and periodicals.

Breaking the cycle

Project to help homeless, substance-abusing women

Homeless, substance-abusing women and their children will get help establishing productive, drug-free lives through an unusual partnership formed by the School of Medicine, St. Louis University and several community agencies that serve the homeless.

The new project, which has received $3.1 million in funding from the National Institute on Alcohol Abuse and Alcoholism (NIAAA), will provide treatment to help young women with children break the cycle of homelessness and substance abuse. Some 240 St. Louis-area women with 600 children will be served by the project, which is expected to begin in February.

Researchers at the School of Medicine and St. Louis University Medical Center will examine the effectiveness of four programs, each offering different combinations of services. The Washington University team will work with Grace Hill Neighborhood Services, which will operate two programs, while the St. Louis University team will work with the Salvation Army and its two programs.

Grace Hill will offer the first program in this area to allow substance-abusing women to keep their children as they get treatment, says Washington University's Elizabeth M. Smith, Ph.D., the project's principal investigator.

"The major reason that women are not receiving treatment for substance abuse problems is their fear of losing their children," explains Smith, a research associate professor of social work in psychiatry. "This will remove the barrier that has existed. In St. Louis, there are not any substance abuse programs that will take people in and allow them to stay there with their kids. What happens often is that the kids end up in foster care, and then the women have a terrible time getting the kids back."

The idea behind the project, Smith says, is to go beyond the assistance offered in typical shelters. "We want to help these women not only recover from alcohol and drug problems, but also learn how to achieve economic and residential stability in their lives."

Co-principal investigator Sharon M. Homan, Ph.D., of the Center for Health Services Education and Research at St. Louis University Medical Center, adds, "These women are faced with making difficult decisions concerning their family, and often they're afraid to make a change for the better because they're not sure it's going to get better. But by telling these women, yes, there is a way to keep the family together while receiving the long-term help they need for both themselves and their children, they might take the first step away from drugs or alcohol and the homelessness that substance abuse often causes," says Homan, an associate professor of public health. "That's where we come in — to supplement shelter services and offer hope for a better economic and stable future."

The project offers four programs, each varying in format. Grace Hill and the Salvation Army already provide fairly complete support to the homeless, but Smith and Homan have added three elements that they believe will make a difference.

There will be alcohol- and drug-free supervised housing, provided as part of a comprehensive approach to substance abuse treatment. Also, for one year a case manager will be assigned to each family to help in moving through the system of agencies and services available to assist with housing, employment and substance abuse problems. Finally, the project will provide long-term child development services and family counseling for the chemically dependent family.


Elizabeth M. Smith, Ph.D., with a young mother and her baby at Grace Hill Neighborhood Services. The woman uses the Grace Hill services, but she is not a substance abuser and is not enrolled in Smith's program which begins next month.

"This program will take only a small number of women and their children at a time, and will have structured activities," Smith says. "There will be day care for the kids, there will be health services available, there will be vocational programs teaching these women daily living skills. They don't have parenting skills. They don't really know how to shop, how to prepare meals. They tend to rely on fast foods. They've not grown up in stable families themselves, and so we're trying to prevent another generation from the same lack of stability."

Locally there are approximately 10,000 homeless, although Smith and Homan point out that it's difficult to get accurate figures. Nationally, about one-third of the homeless are families headed by women; locally about one-half are families.

"It isn't a steady state," Smith says. "People will go into shelters and the shelters will allow them to stay for 90 days or so, then they're out again. Maybe they go back to a boyfriend who's abusive — by then they've made up and they're back there, precariously housed. And they're there for a while and wouldn't really be counted as homeless, because they're living someplace, but then the boyfriend gets drunk or something happens and they're evicted, and they're back in another shelter."

The St. Louis project is one of 14 nationwide that recently received NIAAA and NIDA funding as demonstration projects on substance abusing homeless people. With demonstration projects the government provides funding to develop programs, asking that there be rigorous record-keeping and evaluation so that, if successful, the programs can be replicated elsewhere.

In addition to Smith and Homan, research collaborators include Carol North, M.D., assistant professor of psychiatry at the School of Medicine; and from St. Louis University Medical Center, Barbara Arrington, Ph.D., assistant professor of hospital and health care administration, and Louis H. Flick, Dr.P.H., associate professor of nursing.

Smith has been studying St. Louis' homeless for the past five years. She is currently analyzing data collected from her first NIAA grant, now in its final year, for which she interviewed 900 homeless people, 600 men and 300 women, to investigate the rate of alcoholism and other psychiatric disorders. This summer she received funding to study the characteristics of homeless women and their children, with the goal of assessing social, psychiatric and developmental status of the children.

Debra Bernardo

PERSONNEL NEWS

Wide variety of employee benefits are offered

Washington University has a fine heritage and a challenging future. In keeping with its responsibility for providing a stimulating educational environment, the University makes available to its employees group benefit programs designed to protect employee and family security.

The following summarizes the formal programs and services available.

Health insurance

The University has a flexible health insurance program so that employees may select coverage to best meet their individual needs. Five different plans are available: Blue Cross-Blue Shield Alliance Plus; Blue Cross-Blue Shield Alliance Excel; PAI Major Medical; Group Health Plan (a health maintenance organization); and Partners HMO (a health maintenance organization).

All regular University employees are eligible to participate in any of these plans if working 50 percent time or more. The University makes a monthly contribution toward the cost of health insurance for all full-time regular employees and employees working 50 percent time or more with one year of service. Employees must enroll within 31 days of employment to avoid any limitation on coverage or a requirement to submit evidence of good health to the insurance companies. Late enrollees may join Group Health Plan or Partners HMO on Dec. 1 of any year.

Dental insurance

The University offers two dental insurance plans:

Plan I, Basic Dental, provides 100 percent coverage for preventive dental care and co-insurance with a low deductible for other types of care.

Plan II, Major Plan, provides coverage for major dental expenses without first-dollar coverage for preventive dental care.

All regular employees and union employees working at least 50 percent time are eligible to participate. The University makes a monthly contribution toward the cost of dental insurance for all full-time regular employees, union employees and employees working 50 percent time or more with one year of service. Employees must enroll within the first 31 days of employment to avoid a delay in coverage.

Flexhealth

Flexhealth is a program designed to increase your spendable income by lowering the amount of gross salary on which your taxes are paid. By participating in the Flexhealth program, you will pay for your health and dental coverage with before-tax dollars. Health and dental premiums will be deducted from your total gross salary. Then, federal, state, City of St. Louis and FICA taxes will be calculated and deducted from this lower balance.

Under this arrangement, your health and dental premiums are paid with before-tax dollars to increase your net spendable income. This will not affect any of your other benefits such as life insurance, disability benefits or retirement annuity.

All employees who elect health coverage under Blue Cross-Blue Shield, PAI Major Medical, Group Health Plan, Partners HMO or Travelers Dental Insurance will automatically pay their premiums before taxes.

If you do not want to participate in the Flexhealth Program, you must complete the Flexhealth Plan Waiver. The waiver forms are available in the Personnel Office. If you waive participation in the Flexhealth Program, your federal, state, City of St. Louis and FICA taxes will usually be higher because they will be calculated based on the total gross salary.

Child care reimbursement

Definition: Qualified child care expenses are expenses for child care services incurred because you are employed.

Qualified services: Reimbursement on a pre-tax basis for the cost of caring for dependent children under 13 by a qualifying day care center, preschool program or licensed baby sitter.

Enrollment: The IRS requires an advance estimate specifying how much salary an employee wishes to contribute in the coming year. Funds are deducted from the paycheck before taxes and deposited to individual accounts. Maximum deduction is $416.66 per month or $5,000 per year.

Reimbursement: Monthly claims may be submitted to the Personnel Office with a claim form and original receipt or copy of a bill. Minimum reimbursement is $25. Expense will be paid in full unless sufficient funds are not available. In that case, payment will be made as additional funds accrue. For reimbursement, all claims must be filed by March 31 of the next year.

Termination of employment: Only child care services performed prior to termination of employment will be reimbursed during that calendar year.

Family status change: Changes in yearly contributions will be allowed only if family status changes because of birth, death, marriage, divorce, adoption or spouse losing job.

Forfeiture: Federal law requires that any money left in an account at the end of the year will be forfeited after reimbursement for eligible expenses. Since reimbursement accounts represent a "use it or lose it" proposition, money should be directed into this account only if it will be used. Example of the effect on salary with Flexhealth and with or without a child reimbursement account:

	With	Without
Annual Gross Pay	$24,000	$24,000
Flexhealth	- 2,176	- 2,176
Child Care Account	- 3,380	0
Taxable Income	$18,444	$21,824
Federal Taxes (FWT)	- 1,798	- 2,305
FICA (Social Security)	- 1,319	- 1,560
State/Local	- 645	- 764
Take Home Pay		
Out-of-Pocket		
Child Care Expense	0	- 3,380
Spendable Income	$14,682	$13,815

Continuation coverage

On April 7, 1985, the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985 was signed into law. The new law contains a provision of special interest that affects employer-sponsored health plans.

Employers must offer continuation of group health and dental insurance coverage to certain employees and dependents when upon occurrence of a "qualifying event," lose coverage.

"Qualifying events" include: Termination of employment (other than for gross misconduct); reduction of hours of employment; death of the employee; divorce or legal separation; a dependent child reaching the maximum age for coverage; entitlement to Medicare.

For employees, continuation of coverage may continue up to 18 months; for dependents, up to 36 months.

Detailed information is available in the Personnel Office.

Group life insurance

Noncontributory life insurance — All regular full-time employees are provided a benefit equal to half times their annual salary after six months of continuous employment. The University pays the entire cost of this benefit.

Supplemental contributory life and accidental death and dismemberment insurance is applicable to employees working 50 percent time or more at the Hilltop Campus and full-time employees at the Medical School Campus. An employee can elect an amount of insurance equal to one, two, three, or four times annual compensation to a maximum of $500,000.

Contributory life insurance for dependents — Employees insured under either one of the above plans may also insure their spouses for $5,000 and dependent children for $2,500 each.

You must enroll in the contributory insurance within the first 31 days of employment to avoid any delay in coverage or necessity of furnishing satisfactory evidence of insurability to the insurance company.

Total disability benefits

This insurance is provided to replace an employee's earnings in the event of a total and permanent disability so that the employee is unable to work. The insurance also provides for the payment of premiums to the retirement annuity for participants during a period of disability.

All regular, full-time employees are eligible to participate after one year of continuous service with a basic annual salary of $12,000 or more. The University pays the full cost of this insurance.

This insurance provides a benefit of 60 percent of monthly salary when combined with your Social Security benefits and will continue during a period of disability up to age 65 except for disabilities beginning after age 60, benefits will continue for up to five years, but not beyond age 70. Employees are automatically included under this program when they meet the eligibility requirements.

Retirement annuity

The University has both a Basic and Supplemental Retirement Plan. Both plans are underwritten by the Teachers Insurance and Annuity Association (TIAA) and the College Retirement Equities Fund (CREF). However, the Vanguard Group of Mutual Funds also is available as an investment option under the Supplemental Plan.

All plans qualify as a Tax Deferred Annuity under the Internal Revenue Code, thereby deferring taxes on contributions to the retirement years when converted to a monthly retirement income at a lower tax bracket.

Basic Plan — All regular employees working half-time or more are eligible to participate under the Basic Plan. Participation is mandatory on the July 1 following completion of five years of full-time continuous service and an annual salary equal to the current Social Security base or for faculty members, when granted tenure.

The University makes a contribution under the Basic Plan. There is no University contribution under the Supplemental Plan. A 5 percent minimum contribution is required but is waived for employees with five continuous years of services and earnings up to $20,000. The required contributions will be graded for employees with earnings of $20,000 up to $30,000 with five continuous years of service as shown in the following table:

Annual Earnings	Required Contribution
Less than $20,000	Waived
$20,000 but less than $22,500	1 percent
$22,500 but less than $25,000	2 percent
$25,000 but less than $27,500	3 percent
$27,500 but less than $30,000	4 percent
$30,000 and over	5 percent
Age of Employee	**University Contribution**
Under age 45	7 percent
45 thru 49	8-1/2 percent
50 to Retirement	11-1/2 percent

The IRS discrimination requirements may require a periodic adjustment in the above contribution levels.

Ownership of all contributions is fully vested in the participants.

The participant makes the investment choice between TIAA, a fixed income fund with investments in bonds, government securities, etc., or CREF, which has four investment options available: common stock fund; money market; bond fund and a social choice fund. Contributions can be allocated 100 percent to either TIAA or CREF, or split 25 percent, 50 percent or 75 percent between the five funds. Allocations can be changed periodically.

Supplemental Plan—Tax deferred contribution in excess of the minimum 5 percent Basic Plan contribution may be put under this plan. This plan can be used to accumulate funds to supplement retirement income.

Travel accident insurance

A group policy covers all full-time employees who are on the regular payroll while traveling off University property on the business of the University. A maximum benefit of $100,000 is provided for loss of life or dismemberment. These benefits are in addition to any benefits provided under the University's Group Life Insurance.

Tuition assistance plan

The Washington University Tuition Assistance Plan is intended to help employees pay tuition costs for dependent children and spouses. The benefit must be applied towards tuition charges incurred at an accredited college or university.

Effective July 1, 1985, the following non-taxable tuition benefits are available to full-time faculty, administrators and staff after five full years of continuous service:*

1. Education benefits are available to children who are dependent on a parent who is a full-time member of the University. Such children must meet the normal admission standards of Washington University. Those who do may attend any undergraduate division of the University on a tuition-free basis. Additionally, full-tuition remission is available to the children of eligible personnel for pursuing pre-baccalaureate studies in University College.

The total period of financial aid at Washington and other schools may not exceed eight semesters, or the equivalent. Such financial assistance also is available to the children of faculty members, administrators and staff members who died while full-time employees of the University or were on leave, including disability leave. It also is available to the children of retired faculty members, administrators and staff members who were full-time employees of the University.

2. After five full years of continuous service,* the spouse of any full-time member of the University who meets the normal admission requirements may enroll at Washington in an undergraduate program or in individual undergraduate courses at half the current tuition rate. This also applies to undergraduate courses taken in the Unclassified Undergraduate Program.

3. Any full-time faculty, administrative, professional and staff member or spouse who meets the normal admission standards may enroll in regularly scheduled courses in University College at one-half the current tuition rate,

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Personnel News

Personnel News appears monthly in the Record and is prepared by Gloria W. White, vice chancellor for personnel and affirmative action officer, and other members of the Personnel Office. Personnel News is designed to keep Washington University employees and their families informed of the benefits and opportunities available at the University.

CALENDAR

Jan. 24-Feb. 2

LECTURES

Thursday, Jan. 24

4 p.m. Dept. of Chemistry Seminar, "Bridgehead Intermediates in Organic Synthesis," George Kraus, Iowa State U. Room 311 McMillen. (Coffee: 3:45 p.m.).

4 p.m. Divisional Neuroscience Seminar, "Neural Development in the *Drosophila* Retina," Don Ready, Dept. of Biological Sciences, Purdue U. Cori Aud., 660 S. Euclid Ave.

4 p.m. Divisional Population Biology Seminar, "Explaining Biological Diversification: Integrating Causation at Different Spatial and Temporal Scales," Joel Cracraft, Dept. of Anatomy, U. of Illinois. Room 322 Rebstock.

4 p.m. Dept. of Pathology Seminar, "The Bc1-2-Immunoglobulin Transgenic Mouse — A Model of the t(14,18) Characteristic of Human Follicular Lymphoma," Timothy McDonnell, WU Dept. of Pathology. Third Floor Aud., Children's Hospital, 400 S. Kingshighway Blvd.

Friday, Jan. 25

9:15 a.m. Pediatric Grand Rounds, "Boardwalk Babies: Early History of Premature Infant Care," Lawrence Gartner, prof. and chair, Dept. of Pediatrics, U. of Chicago. Clopton Aud., 4950 Audubon Ave.

Noon. Dept. of Cell Biology and Physiology Seminar, "Opioids and Ca2+ Channels," Ed McCleskey, asst. prof., WU Dept. of Cell Biology and Physiology. Room 423 McDonnell Medical Sciences Bldg.

Noon. School of Medicine Transplant Seminar, "Donor Specific Transfusions," Charles B. Anderson, prof. and chief, WU Div. of General Surgery. Third Floor Aud., Children's Hospital, 400 S. Kingshighway Blvd.

3 p.m. Metabolism Divisional Seminar, "From Hypersensitivity to Resistance to Insulin During the Course of Hypothalmic Obesity," Luc Penicaud, U. of Paris. Internal Medicine Conference Room, 6th Fl., Wohl Hospital.

8 p.m. Gallery of Art Lecture, "Envisioning America: The Far West and the German Imagination," Beeke Sell Tower, WU Hortense Lewin Visiting Scholar from Goethe Institute, Boston. Lecture inaugurates Gallery of Art's Carl F. Wimar exhibit. Steinberg Hall Aud. For more info., call 889-4523.

8:30 p.m. Hillel Lecture, "On Being Jewish and Homosexual," Andy Rose, co-editor of *Twice Blessed: On Being Lesbian, Gay and Jewish*. Sponsored by WU Gay and Lesbian Community Alliance, GAYLAW and Hillel. Hillel House Lounge, 6300 Forsyth Blvd. For more info., call 726-6177.

Saturday, Jan. 26

9 a.m. Saturday Morning Neural Science Seminar with panel discussion, "Is Knowledge Outstripping Values in Genetic Engineering Research?" Panelists include: Gar Allen, WU Dept. of Biology; Ken Ludmerer, WU Dept. of Medicine; Maynard Olson, WU Dept. of Genetics; and Carl Wellman, WU Dept. of Philosophy. Erlanger Aud., McDonnell Medical Sciences Bldg.

Sunday, Jan. 27

2 p.m. Hillel Lecture, "Jews and Antisemites in Vienna at the Turn of the Century," Egon Schwarz, WU Rosa May Distinguished University Professor in the Humanities. Hillel House, 6300 Forsyth Blvd. Lecture is in conjunction with the "Heritage and Mission: Jewish Vienna" exhibit at the Hillel House through Feb. 22.

Monday, Jan. 28

4 p.m. Immunology Program Seminar, "Evolution and Biology of CR2, a Lymphocyte Receptor for C3 and the Epstein-Barr Virus," V. Michael Holers, asst. prof. of medicine and pathology, Howard Hughes Medical Institute, WU School of Medicine. Third Floor Aud., Children's Hospital, 400 S. Kingshighway Blvd. For more info., call 362-8748.

4 p.m. Dept. of Biology Seminar, "Control of Cell Cycle During Leech Development," Shirley Bissen, Dept. of Biology, U. of Missouri-St. Louis. Room 322 Rebstock Hall.

Tuesday, Jan. 29

4 p.m. Dept. of Chemistry Seminar, "The Shapes of Nucleii From Coulomb Excitation," Douglas Cline, dir., Nuclear Structure Research Laboratory, U. of Rochester. Room 311 McMillen. (Coffee: 3:45 p.m., McMillen.)

7 p.m. University College Short Course, "New Perspectives on the Psychology of Gender," Peggy Guest, lecturer in psychology and women's studies. Cost: $100 to attend six lectures. To register, call 889-6788.

Wednesday, Jan. 30

11 a.m. Assembly Series Presents the Henry R. Luce Lecture, "The Unmaking of the Russian Revolution, Douglass C. North, WU Henry R. Luce Professor of Law and Liberty. Graham Chapel. For more info., call 889-4620.

4 p.m. University College Short Course, "There's Magic in the Web: Shakespeare's Othello in Performance," Henry Schvey, WU prof. of drama. Cost: $100 for six Wednesday lectures. To register call 889-6788.

4 p.m. Dept. of Physics Colloquium, "Quantum, Classical and the Environment," Wojciech Zurek, Los Alamos National Lab. Room 204 Crow Hall. (Coffee: 3:30 p.m. Room 245 Compton Hall.) For info., call 889-6276.

4 p.m. Dept. of Biochemistry and Molecular Biophysics Seminar, "Protein Tyrosine Phosphatases in Signal Transduction and Cell Cycle," Edmond H. Fischer, Dept. of Biochemistry, U. of Washington-Seattle. Erlanger Aud., McDonnell Medical Sciences Bldg.

8 p.m. Dept. of English Poetry Reading with Constance Urdang, author of *Alternative Lives, American Earthquakes*. Hurst Lounge, 201 Duncker Hall. For more info., call 889-5120.

Thursday, Jan. 31

1:10 p.m. George Warren Brown School of Social Work Lecture, "Assets and the Poor: A New American Welfare Policy," Michael Sherraden, WU assoc. prof. of social work. Brown Hall Lounge. For info., call 889-6606.

4 p.m. WU School of Law Second Annual Symposium on Racism, Sexism and Heterosexism, "Balancing the Scales of Justice." (Lectures also are scheduled throughout the day Feb. 1, beginning at 9 a.m.) Room 316 Mudd Law Bldg. Sponsored by Women's Law Caucus, Gay and Lesbian Alliance at WU, Black Law Students Association, and Indian Law Society. For more info., call 889-6400.

4 p.m. Dept. of Anthropology Lecture, "The Anthropological Scene in the '30s and '40s: A View From Chicago," John W. Bennett, WU Distinguished Anthropologist in Residence. Room 106 Simon Hall.

Friday, Feb. 1

Noon. Dept. of Cell Biology and Physiology Seminar, "Endothelin, Ca2+ Buffering, and Ca2+ Localization in Coronary Artery Smooth Muscle," Mike Sturek, U. of Missouri-Columbia. Room 423 McDonnell Medical Sciences Bldg.

6 and 8:30 p.m. WU Association Travel Lecture Series, "The Real World of Hawaii and Tahiti," Rick Howard, filmmaker. Graham Chapel. For ticket info., call 889-5212.

Saturday, Feb. 2

11 a.m. University College Saturday Seminar, "Creating Unity Out of Diversity: The Role of Tradition in Indonesia's Legal, Political and Cultural Unification," John R. Bowen, WU asst. prof. of anthropology. Women's Bldg. Lounge. For more info., call 889-6788.

PERFORMANCES

Friday, Jan. 25

8 p.m. Performing Arts Dept. Presents Robert Small in Concert. Choreography and movement by Robert Small, WU artist-in-residence. Edison Theatre. Cost: $7 for general public; $5 for senior citizens and WU faculty and staff; and $5 for students. For ticket info., call 889-6543.

Friday, Feb. 1

8 p.m. Edison Theatre "OVATIONS!" Series Presents "Sound Proof," Keith Terry, body musician. (Also Feb. 2, same time.) Co-sponsored by Dance St. Louis. Edison Theatre. Cost: $18 for general public; $14 for senior citizens and WU faculty and staff; and $9 for students. For ticket info., call 889-6543.

MUSIC

Sunday, Jan. 27

7 p.m. Dept. of Music Presents a Concert by The Apollo String Quartet. Concert will feature works by Haydn and Beethoven, along with contemporary pieces. Steinberg Hall Aud. Free.

Tuesday, Jan. 29

8 p.m. Graham Chapel Series Presents an Organ Recital by Gerre Hancock, organist and master of the Choristers at St. Thomas Church, New York City. Graham Chapel. Program is co-sponsored by the St. Louis Chapter of the American Guild of Organists. Free.

EXHIBITIONS

"Roman Republican Coins." Through May 19. Gallery of Art, lower gallery, Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-4523.

"Washington University Art Collections." Through May. Gallery of Art, lower gallery, Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Carl F. Wimar: Chronicler of the Missouri River Frontier." This is the first comprehensive exhibit on the work of the St. Louis artist in more than 40 years. Wimar was one of the last painters of the Indians and buffalo before the Western settlement after the Civil War. Exhibit Jan. 26 through March 24. Gallery of Art, upper gallery, Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Romance and Reality on the Frontier," in conjunction with the Carl F. Wimar exhibit. Jan. 26 through March 24. Gallery of Art, lower gallery, Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Heritage and Mission: Jewish Vienna." Through Feb. 22. Hillel House, 6300 Forsyth Blvd. Hours: 10:30 a.m.-4 p.m. Sunday through Friday; closed Saturday. For info., call 726-6177.

"A Temple of Texts: 50 Literary Pillars," selected by William Gass, WU David May Distinguished University Professor in the Humanities. Jan. 22 through April 10. Special Collections, Olin Library, Level 5. Exhibit hours: 8:30 a.m.-5 p.m. weekdays.

FILMS

Tuesday, Jan. 29

7 p.m. Japanese Film Series, "Double Suicide," directed by Masahiro Shinoda. Subtitled in English. Room 100 Busch Hall. Free.

SPORTS

Thursday, Jan. 24

5:30 p.m. Men's Junior Varsity Basketball. WU vs. Webster U. Field House.

7:30 p.m. Men's Basketball. WU vs. Webster U. Field House.

Friday, Jan. 25

6 p.m. Men and Women's Diving. WU Invitational. (Also 10 a.m. Jan. 26.) Millstone Pool.

Monday, Jan. 28

7:30 p.m. Women's Junior Varsity Basketball. WU vs. Forest Park College. Field House.

Friday, Feb. 1

6 p.m. Women's Basketball. WU vs. U of Rochester. Field House.

8 p.m. Men's Basketball. WU vs. U of Rochester. Field House.

Saturday, Feb. 2

Noon. Women's Junior Varsity Basketball. WU vs. Central Methodist College. Field House.

1 p.m. Men's Junior Varsity Basketball. WU vs. Florissant Valley Community College. Field House.

MISCELLANY

Friday, Jan. 25

Noon. Woman's Club Mini-Luncheon and Lecture, "Healthcare Advances for the 21st Century," William A. Peck, vice chancellor for medical affairs and dean, WU School of Medicine. Women's Bldg. Lounge. Cost: $3 for members; $4 for their guests. For more info., call 721-3573.

Saturday, Jan. 26

9:30 a.m. WU Law School Open House. The event is designed to acquaint prospective students with the law school. Mudd Law Bldg. For info. or to register, call 889-4525 from 8:30 a.m. to 5 p.m. weekdays.

Calendar Deadline

The deadline to submit items for the Jan. 31-Feb. 9 calendar of the Record is Jan. 25. Items must be typed and state time, date, place, nature of event, sponsor and admission cost. Incomplete items will not be printed. If available, include speaker's name and identification and the title of the event; also include your name and telephone number. Send items to Deborah Parker, calendar editor, Box 1070, or by electronic mail to p72245DP at WUVMC.

Benefits— *continued from p. 7*

except for a few courses in which enrollment must be limited because of the facilities that are available. A reasonable maximum load is seven credit hours; enrollment by an employee for more than seven hours requires special approval.

4. In addition, after seven full years of continuous service,* tuition not exceeding half of the current Washington University tuition, and not in excess of the tuition and required academic fees of the college or university attended, whichever is less, also is available to such children who choose to attend undergraduate programs at other accredited colleges or universities.

The full-time member must establish eligibility for each individual child through the Personnel Office. The staff member or spouse must establish his/her eligibility through the Personnel Office. Employees or spouses enrolling in University College are approved for one-half tuition at the time they register.

** Full-time service at other institutions of higher education may be counted to meet the eligibility requirement.*

Effective in 1979, a tuition rate equal to one-half of the regularly stated rate in graduate/professional degree programs is available to all full-time employees under the following conditions:

- The graduate/professional tuition rate applies only to Washington's degree programs that are offered in University College and/or after the normal work hours;
- The employee meets the normal admission requirements for the degree program; and
- The employee may enroll for up to six units of work per semester.

Arrangements for the graduate tuition rate are made in the Office of the Dean of the Graduate School, unless the graduate/professional degree programs are offered in University College. Arrangements for the University College graduate tuition rate are made in University College.

Identification cards

All faculty, administrative and staff employees working half-time or more, receive I.D. cards soon after they begin active service. This card entitles them to a number of benefits and privileges, such as the following:

Check Cashing - The Cashier's Office in North Brookings will cash personal checks not exceeding $75 and Washington University payroll checks not exceeding $200.

Library - Faculty, administrative and staff employees are granted library privileges subject to the regulations.

Athletic Complex - The facilities of the Athletic Complex are available during certain times to employees. Family memberships are available for a nominal fee. Arrangements should be made directly with the Athletic Complex Office.

Hotel Discounts - Discounts will be given to employees using hotels listed in the Survey of Hotel Rates, which is an appendix to the University's travel policy. Copies may be obtained from the Accounting Services Office.

Credit union

Membership and services of the St. Louis Teachers Credit Union are offered to Washington employees and their families. Payments for savings or loans may be made by payroll deduction.

Parking

The University attempts to provide adequate and convenient parking facilities for all its employees. Regulations and applications for required permits are available at the Campus Transportation Office.

University personnel policies

This summary is subject to terms and conditions of the documents and contracts governing these benefits.

The policies and provisions are subject to change. Therefore, the University reserves the right to effect such changes, at which time suitable announcements will be made.